

2003 and 2004 MY A/F Sensor Heater Monitor (P0031, P0032, P0051, P0052, P0135, P0155, P1135, P1155)

To return to monitor description, see page [As-5](#).

MONITOR STRATEGY

Required sensors/Components	Main	A/F sensor heater
	Sub	Vehicle speed sensor
Frequency of operation	Continuous	
Duration	10 sec.	
MIL operation	Immediate	
Sequence of operation	None	

TYPICAL ENABLING CONDITIONS

The monitor will run whenever the following DTCs are not present	See page In-39
Included in the Typical Malfunction Thresholds	–

TYPICAL MALFUNCTION THRESHOLDS

Engine Family	Detection Criteria	Threshold	Typical Enabling Condition
Case 1: Heater current is low			
• 2AZ–FE Highlander • 1MZ–FE Camry and ES300 • 3MZ–FE	Heater current	Less than 0.8 A for 10 sec. or more	• Battery voltage is 10.5 V or more • 10 sec. or more after engine start • Heater drive duty is more than 50 %
Others		Less than 3.0 A for 10 sec. or more	
Case 2: Heater circuit is high			
–	Heater current	More than 20 A for 10 sec. or more	• 10 sec. or more after engine start • Battery voltage is less than 15 V

OBD MONITOR DRIVE PATTERNS

See page [In-13](#)

MODE 06 DATA (MONITOR RESULT)

- Checking monitor status (See page [In-43](#))
- Detecting Mode 06 data (See page [In-44](#))